

# SEQUENCE LISTING

<110> Tang, Y. Tom  
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 Asundi, Vinod  
 Zhao, Qing A.  
 Yang, Yonghong  
 Ren, Feiyan  
 Wang, Jian-Rui  
 Zhang, Jie  
 Drmanac, Radoje T.

<120> Novel Nucleic Acids and  
 Polypeptides

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 <151> 2000-08-23

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48





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Pro Arg Gly Lys Arg Arg Ala Met Glu Ala Gln Met Gln Ser Glu Ala	
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acc tac gcg gtg ggc gcc gct tgc acg ccc cgg gcg ccg cgg gag ctg 192  
Thr Tyr Ala Val Gly Ala Ala Cys Thr Pro Arg Ala Pro Arg Glu Leu  
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Leu Asp Val Gly Arg Asp Gly Arg Leu Ala Gly Arg Arg Arg Val Ser  
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Gly Ser Val Arg Leu Arg Leu Leu Cys Ala Leu Arg Arg Ala Ala Gly  
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Gly Ser Leu Lys Phe Pro Met Pro Asn Tyr Gln Val Ala Leu Phe Glu			
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Leu Arg Val Lys Ala Val Asp Tyr Ser Thr Pro Pro Arg Ser Ala Thr			
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Thr Tyr Ile Thr Val Leu Val Lys Asp Thr Asn Asp His Ser Pro Val			
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Phe Glu Gln Ser Glu Tyr Arg Glu Arg Val Arg Glu Asn Leu Glu Val			
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Gly Tyr Glu Val Leu Thr Ile Arg Ala Ser Asp Arg Asp Ser Pro Ile			
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Gln Leu Asn Glu Ser Ser Gly Val Val Ser Thr Arg Ala Val Leu Asp			
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acc Thr	tac Tyr	cag Gln	ctc Leu 725	aca Thr	ggc Gly	ggc Gly	aac Asn	acc Thr 730	cgg Arg	aac Asn	cgc Arg	ttt Phe	gca Ala	ctc Leu 735	agc Ser	2208
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cgg Arg	tcg Ser 770	cac His	act Thr	gcg Ala	cat His	gtc Val 775	cta Leu	atc Ile	aac Asn	gtc Val	act Thr 780	gat Asp	gcc Ala	aac Asn	acc Thr	2352
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Tyr	Gln	Gly	Ser	Ile	Phe	Glu	Asp	Ala	Pro	Pro	Ser	Thr	Ser	Ile	Leu	
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Gln	Val	Ser	Ala	Thr	Asp	Arg	Asp	Ser	Gly	Pro	Asn	Gly	Arg	Leu	Leu	
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Ile	Leu															

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Thr Gly Val Ile Gly Cys Ile Pro Ala His Asp Pro Asp Val Ser Asp				
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Pro Phe Leu Ser Ser Thr Thr Val Leu Phe Arg Pro Ile His Pro Ile				
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Glu Ser Val Val Ser Trp Ser Asp Leu Asn Ile Ile Ile Ser Val Pro	
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Trp Tyr Leu Gly Leu Met Phe Arg Thr Arg Lys Glu Asp Ser Val Leu	
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1780 1785 1790	
ctg gtc acc atg acc ttg gac tat ggg atg gac cag aac aag gca gat	5424

Time	Temperature	Pressure	Flow rate	Concentration	Viscosity	Refractive index	Density	Sound velocity	Thermal conductivity	Electrical conductivity	Magnetic permeability	Dielectric constant	Mechanical properties	Optical properties	Chemical properties	Biological properties	Environmental properties	Other properties
10:00	25.0	1.013	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
10:15	25.5	1.014	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
10:30	26.0	1.015	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
10:45	26.5	1.016	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
11:00	27.0	1.017	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
11:15	27.5	1.018	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
11:30	28.0	1.019	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
11:45	28.5	1.020	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
12:00	29.0	1.021	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
12:15	29.5	1.022	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
12:30	30.0	1.023	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
12:45	30.5	1.024	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
13:00	31.0	1.025	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
13:15	31.5	1.026	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
13:30	32.0	1.027	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
13:45	32.5	1.028	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
14:00	33.0	1.029	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
14:15	33.5	1.030	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
14:30	34.0	1.031	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
14:45	34.5	1.032	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
15:00	35.0	1.033	1.0	0.1	0.01	1.000	1.000	3400	0.02	0.001	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
15:15	35.5	1.034	1.0	0.1	0.01	1.000												

atg gcc acc ggg cag tgt gcc tgc aag ccc ggc gtc atc ggc cgc cag 6096  
Met Ala Thr Gly Gln Cys Ala Cys Lys Pro Gly Val Ile Gly Arg Gln





aac ttt acg gga gcc agg gtc ccg cga ttc gac acc atc cat gaa gag	6816
Asn Phe Thr Gly Ala Arg Val Pro Arg Phe Asp Thr Ile His Glu Glu	
2260 2265 2270	
ttc ccc agg gag ctg gag tcc tcc gtc tcc ttc cca gcc gac ttc ttc	6864
Phe Pro Arg Glu Leu Glu Ser Ser Val Ser Phe Pro Ala Asp Phe Phe	
2275 2280 2285	
aga cca cct gaa gaa aaa gaa ggc ccc ctg ctg agg ccg gct ggc cgg	6912
Arg Pro Pro Glu Glu Lys Glu Gly Pro Leu Leu Arg Pro Ala Gly Arg	
2290 2295 2300	
agg acc acc ccg cag acc acg cgc ccg ggg cct ggc acc gag agg gag	6960
Arg Thr Thr Pro Gln Thr Thr Arg Pro Gly Pro Gly Thr Glu Arg Glu	
2305 2310 2315 2320	
gcc ccg atc agc agg cgg agg cga cac cct gat gac gct ggc cag ttc	7008
Ala Pro Ile Ser Arg Arg Arg His Pro Asp Asp Ala Gly Gln Phe	
2325 2330 2335	
gcc gtc gct ctg gtc atc att tac cgc acc ctg ggg cag ctc ctg ccc	7056
Ala Val Ala Leu Val Ile Ile Tyr Arg Thr Leu Gly Gln Leu Leu Pro	
2340 2345 2350	
gag cgc tac gac ccc gac cgt cgc agc ctc cgg ttg cct cac cgg ccc	7104
Glu Arg Tyr Asp Pro Asp Arg Arg Ser Leu Arg Leu Pro His Arg Pro	
2355 2360 2365	
atc att aat acc ccg atg gtg agc acg ctg gtg tac agc gag ggg gct	7152
Ile Ile Asn Thr Pro Met Val Ser Thr Leu Val Tyr Ser Glu Gly Ala	
2370 2375 2380	
ccg ctc ccg aga ccc ctg gag agg ccc gtc ctg gtg gag ttc gcc ctg	7200
Pro Leu Pro Arg Pro Leu Glu Arg Pro Val Leu Val Glu Phe Ala Leu	
2385 2390 2395 2400	
ctg gag gtg gag gag cga acc aag cct gtc tgc gtg ttc tgg aac cac	7248
Leu Glu Val Glu Glu Arg Thr Lys Pro Val Cys Val Phe Trp Asn His	
2405 2410 2415	
tcc ctg gcc gtt ggt ggg acg gga ggg tgg tct gcc cgg ggc tgc gag	7296
Ser Leu Ala Val Gly Gly Thr Gly Gly Trp Ser Ala Arg Gly Cys Glu	
2420 2425 2430	
ctc ctg tcc agg aac cgg aca cat gtc gcc tgc cag tgc agc cac aca	7344
Leu Leu Ser Arg Asn Arg Thr His Val Ala Cys Gln Cys Ser His Thr	
2435 2440 2445	
gcc agc ttt gcg gtg ctc atg gat atc tcc agg cgt gag aac ggg gag	7392
Ala Ser Phe Ala Val Leu Met Asp Ile Ser Arg Arg Glu Asn Gly Glu	
2450 2455 2460	
gtc ctg cct ctg aag att gtc acc tat gcc gct gtg tcc ttg tca ctg	7440
Val Leu Pro Leu Lys Ile Val Thr Tyr Ala Ala Val Ser Leu Ser Leu	
2465 2470 2475 2480	











gaa Glu 210	gtt Val	ttt Phe	gat Asp	tgt Cys	gac Asp 215	aac Asn	ttg Leu	tac Tyr	cac His	tgt Cys 220	gga Gly	act Thr	tgt Cys	gac Asp	agg Arg 225	787
ctg Leu	gtt Val	aaa Lys	gca Ala 230	gca Ala	aag Lys	tcg Ser	gcc Ala	aaa Lys	tta Leu 235	cgt Arg	aag Lys	ctg Leu	cct Pro	cct Pro	ttt Phe 240	835
ctt Leu	act Thr	gtt Val	tca Ser 245	tta Leu	cta Leu	aga Arg	ttt Phe	aat Asn 250	ttt Phe	gat Asp	ttt Phe	gtg Val	aaa Lys 255	tgc Cys	gaa Glu	883
cgc Arg	tac Tyr	aag Lys 260	gaa Glu	act Thr	agc Ser	tgt Cys	tat Tyr 265	aca Thr	ttc Phe	cct Pro	ctc Leu	cgg Arg 270	att Ile	aat Asn	ctc Leu	931
aag Lys 275	ccc Pro	ttt Phe	tgt Cys	gaa Glu	cag Gln	agt Ser 280	gaa Glu	ttg Leu	gat Asp	gac Asp 285	tta Leu	gaa Glu	tat Tyr	ata Ile	tat Tyr	979
gac Asp 290	ctc Leu	ttc Phe	tca Ser	gtt Val	att Ile 295	ata Ile	cac His	aaa Lys	ggc Gly	ggc Gly 300	tgc Cys	tac Tyr	gga Gly	ggc Gly	cat His 305	1027
tac Tyr	cat His	gta Val	tat Tyr	att Ile 310	aaa Lys	gat Asp	gtt Val	gat Asp	cat His 315	ttg Leu	gga Gly	aac Asn	tgg Trp	cag Gln 320	ttt Phe	1075
caa Gln	gag Glu	gaa Glu	aaa Lys 325	agt Ser	aaa Lys	cca Pro	gat Asp	gtg Val 330	aat Asn	ctg Leu	aaa Lys	gat Asp	ctc Leu 335	cag Gln	agt Ser	1123
gaa Glu	gaa Glu	gag Glu	att Ile 340	gat Asp	cat His	cca Pro	ctg Leu 345	atg Met	att Ile	cta Leu	aaa Lys	gca Ala 350	atc Ile	tta Leu	tta Leu	1171
gag Glu 355	gag Glu	aat Asn	aat Asn	cta Leu	att Ile	cct Pro 360	gtt Val	gat Asp	cag Gln	ctg Leu	ggc Gly 365	cag Gln	aaa Lys	ctt Leu	ttg Leu	1219
aaa Lys 370	aag Lys	ata Ile	gga Gly	ata Ile	tct Ser 375	tgg Trp	aac Asn	aag Lys	aag Lys	tac Tyr 380	aga Arg	aaa Lys	cag Gln	cat His	gga Gly 385	1267
cca Pro	ttg Leu	cgg Arg	aag Lys	ttc Phe 390	tta Leu	cag Gln	ctc Leu	cat His	tct Ser 395	cag Gln	ata Ile	ttt Phe	cta Leu	ctc Leu	agt Ser 400	1315
tca Ser	gat Asp	gaa Glu	agt Ser 405	aca Thr	gtt Val	cgt Arg	ctc Leu	ttg Leu 410	aag Lys	aat Asn	agt Ser	tct Ser	ctc Leu	cag Gln	gct Ala	1363
gag Glu	tct Ser	gat Asp 420	ttc Phe	caa Gln	agg Arg	aat Asn	gac Asp 425	cag Gln	caa Gln	att Ile	ttc Phe 430	aag Lys	atg Met	ctt Leu	cct Pro	1411
cca Pro	gaa Leu	tcc Arg	cca Gln	ggc Thr	tta Val	aac Arg	aat Asn	agc Gln	atc Gln	tcc Ile	tgt Phe	ccc Lys	cac Met	tgg Leu	ttt Pro	1459







gga Gly	gag Glu	cct Pro 900	tta Leu	tgt Cys	gaa Glu	gaa Glu	gat Asp 905	gca Ala	aca Thr	ctg Leu	aaa Lys	gaa Glu 910	ctt Leu	ctg Leu	ata Ile	2851
tgt Cys	tct Ser 915	gga Gly	gat Asp	act Thr	ttg Leu	ctt Leu 920	tta Leu	att Ile	gaa Glu	gga Gly	caa Gln 925	ctt Leu	cct Pro	cct Pro	ctg Leu	2899
ggc Gly 930	ttc Phe	ctg Leu	aag Lys	gtg Val	ccc Pro 935	atc Ile	tgg Trp	tgg Trp	tac Tyr	cag Gln 940	ctt Leu	cag Gln	ggc Gly	ccc Pro	tca Ser 945	2947
gga Gly	cac His	tgg Trp	gag Glu	agt Ser 950	cat His	cag Gln	gac Asp	cag Gln	acc Thr 955	aac Asn	tgt Cys	act Thr	tgc Ser	tct Ser 960	tgg Trp	2995
ggc Gly	aga Arg	gtt Val 965	tgg Trp	aga Arg	gcc Ala	act Thr	tcc Ser 970	agc Ser	caa Gln	ggc Gly	gct Ala	tct Ser	ggg Gly 975	aac Asn	gag Glu	3043
cct Pro	gcg Ala 980	caa Gln	gtt Val	tct Ser	ctc Leu	ctc Leu	tac Tyr 985	ttg Leu	gga Gly	gac Asp	ata Ile	gag Glu 990	atc Ile	tca Ser	gaa Glu	3091
gat Asp 995	gcc Ala	acg Thr	ctg Leu	gcg Ala	gag Glu	ctg Leu	aag Lys 1000	tct Ser	cag Gln	gcc Ala	atg Met 1005	acc Thr	ttg Leu	cct Pro	cct Pro	3139
ttc Phe 1010	ctg Leu	gag Glu	ttc Phe	ggt Gly	gtc Val 1015	ccg Pro	tcc Ser	cca Pro	gcc Ala	cac His	ctc Leu 1020	aga Arg	gcc Ala	tgg Trp	acg Thr 1025	3187
gtg Val	gag Glu	agg Arg	aag Lys	cgc Arg 1030	cca Pro	ggc Gly	agg Arg	ctt Leu	tta Leu 1035	cga Arg	act Thr	gac Asp	cgg Arg 1040	cag Gln	cca Pro	3235
ctc Leu	agc Ser	ccc Pro	cag Gln	gac Asp 1045	gtg Val	ctg Leu	ctg Leu	agg Arg 1050	aca Thr	cag Gln	gtg Val	cgc Arg 1055	atc Ile	cct Pro	ggt Gly	3283
gag Glu	agg Arg	acc Thr 1060	tat Tyr	gcc Ala	cct Pro	gcc Ala	ctg Leu	gac Asp	ctg Leu	gtg Val	tgg Trp 1070	aac Asn	gcg Ala	gcc Ala	cag Gln	3331
ggc Gly 1075	ggg Gly	act Thr	gcc Ala	ggc Gly	tcc Ser 1080	ctg Leu	agg Arg	cag Gln	aga Arg	gtt Val	gcc Ala 1085	gat Asp	ttc Phe	tat Tyr	cgt Arg	3379
ctt Leu 1090	ccc Pro	gtg Val	gag Glu	aag Lys	att Ile 1095	gaa Glu	att Ile	gcc Ala	aaa Lys	tac Tyr 1100	ttt Phe	ccc Pro	gaa Glu	aag Lys	ttc Phe 1105	3427
gag Glu	tgg Trp	ctt Leu	ccg Pro	ata Ile 1110	tct Ser	agc Ser	tgg Trp	aac Asn	caa Gln	caa Gln	ata Ile	acc Thr	aag Lys	agg Arg	aaa Lys	3475

aag	aaa	aaa	aaa	caa	gat	tat	ttg	caa	ggg	gca	ccg	tat	tac	ttg	aaa	3523
Lys	Lys	Lys	Lys	Gln	Asp	Tyr	Leu	Gln	Gly	Ala	Pro	Tyr	Tyr	Leu	Lys	
			1125					1130						1135		
gac	gga	gat	act	att	ggt	gtt	aag	ccc	ttt	aaa	gtc	ccc	ctg	ttt	ggc	3571
Asp	Gly	Asp	Thr	Ile	Gly	Val	Lys	Pro	Phe	Lys	Val	Pro	Leu	Phe	Gly	
			1140				1145					1150				
cac	tcg	cag	tgg	aag	ctt	ctg	gag	ctg	aag	gga	aag	aat	ctc	ctg	att	3619
His	Ser	Gln	Trp	Lys	Leu	Leu	Glu	Leu	Lys	Gly	Lys	Asn	Leu	Leu	Ile	
			1155				1160				1165					
gac	gac	gat	gat	gat	ttc	agt	aca	atc	aga	gat	gac	act	gga	aaa	gaa	3667
Asp	Asp	Asp	Asp	Asp	Phe	Ser	Thr	Ile	Arg	Asp	Asp	Thr	Gly	Lys	Glu	
1170						1175				1180					1185	
aag	cag	aaa	caa	cgg	gcc	ctg	ggg	aga	agg	aaa	agt	atc	ttg	gct	gcc	3715
Lys	Gln	Lys	Gln	Arg	Ala	Leu	Gly	Arg	Arg	Lys	Ser	Ile	Leu	Ala	Ala	
				1190				1195						1200		
cgt	gtg	cca	ggg	act	gca	tgc	cct	ctg	cca	ctg	ggg	gcg	tct	ggg	gaa	3763
Arg	Val	Pro	Gly	Thr	Ala	Cys	Pro	Leu	Pro	Leu	Gly	Ala	Ser	Gly	Glu	
			1205					1210					1215			
gag	agg	tcc	cag	gtg	gag	gtg	gca	ggg	cag	ctc	tgc	agc	cct	cag	gtc	3811
Glu	Arg	Ser	Gln	Val	Glu	Val	Ala	Gly	Gln	Leu	Cys	Ser	Pro	Gln	Val	
			1220				1225					1230				
ctg	gtg	ccc	tca	gag	acc	tgg	gat	atg	gga	gag	ggg	ctg	cag	cgc	tgg	3859
Leu	Val	Pro	Ser	Glu	Thr	Trp	Asp	Met	Gly	Glu	Gly	Leu	Gln	Arg	Trp	
			1235				1240				1245					
ctg	ctt	cgg	ggg	ttt	tcc	tgt	tta	aag	aaa	atg	cac	aac	gtg	tgc	gtg	3907
Leu	Leu	Arg	Gly	Phe	Ser	Cys	Leu	Lys	Lys	Met	His	Asn	Val	Cys	Val	
1250					1255				1260						1265	
aac	cgc	agg	tat	gga	ggc	agc	ggc	atg	ccg	ttg	ctc	cgc	tgt	ggg	aga	3955
Asn	Arg	Arg	Tyr	Gly	Gly	Ser	Gly	Met	Pro	Leu	Leu	Arg	Cys	Gly	Arg	
				1270				1275						1280		
cgg	ttg	act	ttc	cca	gac	agc	agc	tta	gcg	gaa	agc	agc	atc	ccg	aag	4003
Arg	Leu	Thr	Phe	Pro	Asp	Ser	Ser	Leu	Ala	Glu	Ser	Ser	Ile	Pro	Lys	
			1285					1290					1295			
acg	gtg	tcg	cat	gtc	ctg	agc	ctg	ctt	gtc	acc	tgg	gcc	tca	cgg	ttt	4051
Thr	Val	Ser	His	Val	Leu	Ser	Leu	Leu	Val	Thr	Trp	Ala	Ser	Arg	Phe	
			1300				1305					1310				
ctc	gtc	agc	ccc	gtc	act	gat	ggg	aag	cag	cac	tga					4087
Leu	Val	Ser	Pro	Val	Thr	Asp	Gly	Lys	Gln	His	*</					

[illegible]

28

165							170				175					
ggt	agc	gag	agg	cag	gaa	gac	ttc	tta	gat	cta	aca	gta	gca	gtc	aaa	691
Val	Ser	Glu	Arg	Gln	Glu	Asp	Phe	Leu	Asp	Leu	Thr	Val	Ala	Val	Lys	
		180					185					190				
aat	gta	tcc	ggt	ttg	gaa	gat	gct	ctc	tgg	aac	atg	tat	gta	gaa	gag	739
Asn	Val	Ser	Gly	Leu	Glu	Asp	Ala	Leu	Trp	Asn	Met	Tyr	Val	Glu	Glu	
		195				200					205					
gaa	ggt	ttt	gat	tgt	gac	aac	ttg	tac	cac	tgt	gga	act	tgt	gac	agg	787
Glu	Val	Phe	Asp	Cys	Asp	Asn	Leu	Tyr	His	Cys	Gly	Thr	Cys	Asp	Arg	
210					215					220					225	
ctg	ggt	aaa	gca	gca	aag	tcg	gcc	aaa	tta	cgt	aag	ctg	cct	cct	ttt	835
Leu	Val	Lys	Ala	Ala	Lys	Ser	Ala	Lys	Leu	Arg	Lys	Leu	Pro	Pro	Phe	
				230					235					240		
ctt	act	ggt	tca	tta	cta	aga	ttt	aat	ttt	gat	ttt	gtg	aaa	tgc	gaa	883
Leu	Thr	Val	Ser	Leu	Leu	Arg	Phe	Asn	Phe	Asp	Phe	Val	Lys	Cys	Glu	
			245				250						255			
cgc	tac	aag	gaa	act	agc	tgt	tat	aca	ttc	cct	ctc	cgg	att	aat	ctc	931
Arg	Tyr	Lys	Glu	Thr	Ser	Cys	Tyr	Thr	Phe	Pro	Leu	Arg	Ile	Asn	Leu	
		260				265						270				
aag	ccc	ttt	tgt	gaa	cag	agt	gaa	ttg	gat	gac	tta	gaa	tat	ata	tat	979
Lys	Pro	Phe	Cys	Glu	Gln	Ser	Glu	Leu	Asp	Asp	Leu	Glu	Tyr	Ile	Tyr	
	275					280					285					
gac	ctc	ttc	tca	ggt	att	ata	cac	aaa	ggt	ggc	tgc	tac	gga	ggc	cat	1027
Asp	Leu	Phe	Ser	Val	Ile	Ile	His	Lys	Gly	Gly	Cys	Tyr	Gly	Gly	His	
290					295					300					305	
tac	cat	gta	tat	att	aaa	gat	ggt	gat	cat	ttg	gga	aac	tgg	cag	ttt	1075
Tyr	His	Val	Tyr	Ile	Lys	Asp	Val	Asp	His	Leu	Gly	Asn	Trp	Gln	Phe	
				310				315						320		
caa	gag	gaa	aaa	agt	aaa	cca	gat	gtg	aat	ctg	aaa	gat	ctc	cag	agt	1123
Gln	Glu	Glu	Lys	Ser	Lys	Pro	Asp	Val	Asn	Leu	Lys	Asp	Leu	Gln	Ser	
			325					330					335			
gaa	gaa	gag	att	gat	cat	cca	ctg	atg	att	cta	aaa	gca	atc	tta	tta	1171
Glu	Glu	Glu	Ile	Asp	His	Pro	Leu	Met	Ile	Leu	Lys	Ala	Ile	Leu	Leu	
		340					345					350				
gag	gag	aat	aat	cta	att	cct	ggt	gat	cag	ctg	ggc	cag	aaa	ctt	ttg	1219
Glu	Glu	Asn	Asn	Leu	Ile	Pro	Val	Asp	Gln	Leu	Gly	Gln	Lys	Leu	Leu	
		355				360					365					
aaa	aag	ata	gga	ata	tct	tgg	aac	aag	aag	tac	aga	aaa	cag	cat	gga	1267
Lys	Lys	Ile	Gly	Ile	Ser	Trp	Asn	Lys	Lys	Tyr	Arg					



gag gtt ggt gga gtc cac att caa act ggt att gac tgc gaa cct cta Glu Val Gly Gly Val His Ile Gln Thr Gly Ile Asp Cys Glu Pro Leu																2035
630 635 640																
ctt tta aat gtt ctt cat cta gac aca agc agt gat gga gaa aag tgt Leu Leu Asn Val Leu His Leu Asp Thr Ser Ser Asp Gly Glu Lys Cys																2083
645 650 655																
tgt cag gtg ata gaa tct cca cat gtc ttt cca gct aat gca gaa gtg Cys Gln Val Ile Glu Ser Pro His Val Phe Pro Ala Asn Ala Glu Val																2131
660 665 670																
ggc act gtc ctc aca gcc tta gca atc cca gca ggt gtc atc ttc atc Gly Thr Val Leu Thr Ala Leu Ala Ile Pro Ala Gly Val Ile Phe Ile																2179
675 680 685																
aac agt gct gga tgt cca ggt ggg gag ggt tgg acg gcc atc ccc aag Asn Ser Ala Gly Cys Pro Gly Gly Glu Gly Trp Thr Ala Ile Pro Lys																2227
690 695 700 705																
gaa gac atg agg aag acg ttc agg gag caa ggg ctc aga aat gga agc Glu Asp Met Arg Lys Thr Phe Arg Glu Gln Gly Leu Arg Asn Gly Ser																2275
710 715 720																
tca att tta att cag gat tct cat gat gat aac agc ttg ttg acc aag Ser Ile Leu Ile Gln Asp Ser His Asp Asp Asn Ser Leu Leu Thr Lys																2323
725 730 735																
gaa gag aaa tgg gtc act agt atg aat gag att gac tgg ctc cac gtt Glu Glu Lys Trp Val Thr Ser Met Asn Glu Ile Asp Trp Leu His Val																2371
740 745 750																
aaa aat tta tgc cag tta gaa tct gaa gag aag caa gtt aaa ata tca Lys Asn Leu Cys Gln Leu Glu Ser Glu Glu Lys Gln Val Lys Ile Ser																2419
755 760 765																
gca act gtt aac aca atg gtg ttt gat att cga att aaa gcc ata aag Ala Thr Val Asn Thr Met Val Phe Asp Ile Arg Ile Lys Ala Ile Lys																2467
770 775 780 785																
gaa tta aaa tta atg aag gaa cta gct gac aac agc tgt ttg aga cct Glu Leu Lys Leu Met Lys Glu Leu Ala Asp Asn Ser Cys Leu Arg Pro																2515
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Cys	Ser	Gly	Asp	Thr	Leu	Leu	Leu	Ile	Glu	Gly	Gln	Leu	Pro	Pro	Leu	
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Pro	Ala	Gln	Val	Ser	Leu	Leu	Tyr	Leu	Gly	Asp	Ile	Glu	Ile	Ser	Glu	
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[illegible]

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95

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[illegible]



